AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Claims 1-20 (Canceled).

Claim 21 (Currently Amended): A method for producing an osteoclast precursor cell, which comprises:

i) obtaining ~~cells in~~ a cellular fraction containing granulocytes and lymphocytes from joint fluid by centrifugation, and

ii) directly ~~subsequently~~ culturing the ~~cells~~ cellular fraction in an essential medium for mammalian cells, optionally with added serum, in the absence of any additional cytokine(s) to yield osteoclast precursor cells.

Claim 22 (Previously Presented): The method of Claim 21, wherein said essential medium for mammalian cells contains serum.

Claims 23-24 (Canceled).

Claim 25 (Previously Presented): The method of Claim 21, wherein the cells are cultured at a temperature ranging from 35 - 37°C in 5 - 7% CO_2-containing air for 1-3 weeks.

Claim 26 (Withdrawn): An osteoclast precursor cell, which is obtainable by the method of Claim 21.

Claim 27 (Withdrawn): A method for producing an osteoclast, comprising:

culturing an osteoclast precursor cell in a culture medium in the absence of accessory cells.

Claim 28 (Withdrawn): The method of Claim 27, wherein said culture medium comprises one or more compound(s) selected from the group consisting of IL-3, IL-7, GM-CSF, eotaxin, eotaxin-2, and eotaxin-3.

Claim 29 (Withdrawn): The method of Claim 28, wherein said culture medium comprises IL-3.

Claim 30 (Withdrawn): The method of Claim 28, wherein said culture medium comprises IL-7.

Claim 31 (Withdrawn): The method of Claim 28, wherein said culture medium comprises GM-CSF.

Claim 32 (Withdrawn): The method of Claim 28, wherein said culture medium comprises eotaxin.

Claim 33 (Withdrawn): The method of Claim 28, wherein said culture medium comprises eotaxin 2.

Claim 34 (Withdrawn): The method of Claim 28, wherein said culture medium comprises eotaxin-3.

Claim 35 (Withdrawn): The method of Claim 28, wherein said culture medium comprises a culture supernatant of nitrogen-stimulated peripheral blood mononuclear cells.

Claim 36 (Withdrawn): The method of Claim 28, wherein said culture supernatant comprises a supernatant of phytohemagglutinin-stimulated human peripheral blood mononuclear cells.

Claim 37 (Withdrawn): An osteoclast, which is obtainable by the method of Claim 27.

Claim 38 (Withdrawn): A method for screening an agent for treating or preventing a metabolic bone disease, which comprises:

contacting an osteoclast precursor cell isolated by the method of Claim 21, with an agent to be tested, and

measuring the inhibitory activity of said agent on differentiation of the osteoclast precursor into an osteoclast.

Claim 39 (Withdrawn): A method for screening an agent for treating or preventing a metabolic bone disease, which comprises using the osteoclast precursor cell of Claim 21.

Claim 40 (Withdrawn): A method for screening an agent for the treatment or prevention of a metabolic bone disease, which comprises:

contacting the osteoclast of Claim 37 with an agent to be tested and measuring inhibitory activity of said agent on the bone resorption activity of said osteoclast.

Claim 41 (Withdrawn): An agent for treating or preventing a metabolic bone disease which is obtainable by the method of Claim 40.

Claim 42 (Withdrawn): A method for producing an osteoclast precursor cell without producing osteoclasts, which comprises:

obtaining peripheral blood mononuclear cells from peripheral blood by centrifugation,

culturing the cells in an essential medium for mammalian cells, optionally with added serum, in the absence of any additional cytokine(s) for 1-2 hours,

rinsing out non-adherent cells, and

culturing the obtained monocytes in an essential medium for mammalian cells, optionally with added serum, in the absence of any additional cytokine(s).

Claim 43 (Withdrawn): The method of Claim 42, wherein said essential medium for mammalian cells contains serum.

Claim 44 (Withdrawn): The method of Claim 42, wherein the said obtained monocytes are cultured at a temperature ranging from 35 - 37°C in 5 - 7% CO_2-containing air for 1-3 weeks.

Claim 45 (New): A method for producing an osteoclast precursor cell, which comprises:

i) obtaining a cellular fraction containing granulocytes and lymphocytes from joint fluid by centrifugation, and

ii) subsequently culturing the cellular fraction in an essential medium for mammalian cells, optionally with added serum, in the absence of any additional cytokine(s) to yield osteoclast precursor cells, wherein said culturing is at a temperature ranging from 35 - 37°C in 5 - 7% CO_2-containing air for 1-3 weeks.

Claim 46 (New): The method of Claim 45, wherein said essential medium for mammalian cells contains serum.

SUPPORT FOR THE AMENDMENTS

Claims 1-20 and 23-24 were previously canceled.

Claim 21 has been amended.

Claims 45-46 have been added.

The amendment of Claim 21 and new Claims 45-46 are supported by originally filed Claims 5-7 and the specification as originally filed, for example at pages 3-4, page 5, lines 8-16, page 8, line 22 to page 9, line 17, page 12, lines 16-21, and page 18, lines 10-18. New Claims 45-46 correspond to the elected invention.

No new matter has been added by the present amendment.